REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-14 and 16-24 are pending in the application, with claims 1 and 24 being independent. Claim 24 is new. Applicant cancels claims 15, 19, and 21 without prejudice, waiver, or disclaimer of the subject matter. Applicant amends claims 1, and 5, 6, and 14 to further clarify features of the claimed subject matter. The original specification supports these claim amendments at least at page 6, lines 1-16. Therefore, claims 1-14 and 16-24 are presented and directed to subject matter of the original disclosure.

CLAIM OBJECTIONS

Claims 5, 6, and 14 are amended to correct typographical errors. Applicant thanks the Examiner for pointing out these minor informalities.

CLAIM REJECTIONS 35 U.S.C. § 112

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which Appellant regards as the invention. Applicant cancels claim 15 without prejudice, waiver, or disclaimer of the subject matter.

CLAIM REJECTIONS 35 U.S.C. § 102

Claims 1-7, 11-13, 18, and 22 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Number 6,120,959 to Sugizaki et al. (hereinafter "Sugizaki") considered with Chemical Abstracts Registry #147-148 (hereinafter "the Chemical Abstracts"). Applicant respectfully traverses the rejection.

Independent Claim 1

Without conceding the propriety of the stated rejections, and only to advance the prosecution of this application, Applicant amends **independent claim 1**, to clarify further features of the subject matter. Amended claim 1 now recites a black toner particle for use in a printing toner, the particle comprising:

> a polymer;
> carbon black; and
> a plurality of different colored pigments;
> wherein the carbon black and the plurality of different colored pigments are dispersed in the polymer, **and wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours.**

Applicant respectfully submits that no such particle is disclosed by Sugizaki and/or the Chemical Abstracts.

Sugizaki considered with Chemical Abstracts fails to anticipate an optical density fading of less than 10.5%

Sugizaki describes a toner having the charging property and physical properties suitable for the formation of images also having a black color density. *See,* Sugizaki, Col. 2, lines 46-50. Further, Sugizaki describes incorporating a cyan pigment, a magenta pigment, and a yellow pigment together with carbon black to form a black toner. *See,* Col. 2, lines 55-59.

The Office additionally cites the Chemical Abstracts for teaching that "CI Pigment Blue 15, 15:2, 15:3, and 15:4 all describe the same compound." *See,* Office Action mailed March 4, 2008, page 3.

In contrast, Applicant's amended claim 1 recites a toner particle for use in a printing toner, *"wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours."* To assist the Office in appreciating the claimed subject matter, the following excerpt is reproduced from the Applicant's Specification.

Applicant's Specification, page 6, lines 1-16

> Entry 2 shows change, *i.e.* fading, in optical density (OD) and change in CIELAB L*a*b* colorimetry values for a region of a substrate printed with the reference liquid toner and a substrate region printed with the inventive liquid toner caused by exposure of the regions to light. The light had a spectrum of wavelengths from about 270 to about 800 nanometers

and the regions were exposed to the light for a period of about 216 hours. A parameter ΔE was used as a measure of change in L*a*b* values. ΔE for a printed ink is defined by an equation $\Delta E = [(L_f^*-L_i^*)^2 + (a_f^*-a_i^*)^2 + (b_f^*-b_i^*)^2]^{1/2}$, where L_i^*, a_i^*, b_i^* and L_f^*, a_f^*, b_f^* are the L*a*b* colorimetry values for the printed ink at the end and beginning of the exposure period. ΔC is defined as C_f-C_i.

OD was measured using an X-rite spectrodensitometer 938 and ΔE was measured using an X-rite spectrophotometer 968. The reference black exhibited OD fading of about 22.6% while the inventive ink exhibited OD fading of about 10.3%. ΔE for the reference toner was about 12 while ΔE for the inventive toner was about 3.9. Color neutrality for the inventive toner remained low and practically unchanged, while C for the K3.1 ink deteriorated substantially. These values indicate that the inventive toner as substantially better light fastness than the prior art reference toner K3.1.

Additionally, the following excerpt is reproduced from the Applicant's Specification.

Applicant's Specification, page 7, lines 24-29

It should be understood that not all of these pigments are equally colorfast and that the choice of which pigments to use will be based on the color of the carbon black, the available colors of the pigments, the relative lightfastness of the pigments, the effect of the polymer on the actual colors achieved and the degree of neutrality to be achieved. Using three, four or more pigments allows for a greater degree of flexibility in producing a lightfast, neutral black toner.

The above citations demonstrate that the lightfastness of Applicant's invention, i.e. that the optical density fades less than 10.5%, is dependent on many factors, including the color of the carbon black, the available colors of the pigments, the relative lightfastness of the pigments, and the effect of the polymer on the actual colors achieved. Accordingly, the lightfastness of the inventive black toner particle is **not** an inherent feature present in the cited references.

According to the MPEP, "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic". *See,* MPEP § 2112-4, emphasis in original. The MPEP continues, stating "[i]nherency [. . .] may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient". *See,* MPEP § 2112-4.

Assuming, *arguendo*, that Sugizaki discloses a toner particle comprising carbon black and a plurality of different colored pigments, Sugizaki would still fail to disclose the recited features of amended claim 1. At most, Sugizaki describes "a broad genus of potential applications of its discoveries" without disclosing a specific lightfastness. *See* MPEP § 2112-4. As a result of this broad disclosure, Sugizaki can, at most, be said to merely invite further experimentation to find the species of black toner with a plurality of different colored pigments wherein the optical density of the black toner fades less than 10.5%. Therefore, Sugizaki does not inherently disclose the features of amended claim 1.

As these recited features are not anticipated by or inherent in Sugizaki or the Chemical Abstracts, Applicant respectfully submits that claim 1 is not anticipated by these references, and Applicant respectfully requests this rejection be withdrawn.

Dependent claims 2-7, 11-13, 18, and 22 depend from independent claim 1 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the § 102 rejections of these claims be withdrawn.

Applicant Respectfully submits the use of C.I. Pigment Blue 15:3 and 15:4 are patentably distinct.

On page 3-4 of the Office Action mailed on March 4, 2008, the Office rejected **dependent claim 5 and 6** by stating "[t]he Chemical Abstracts citation also shows that the CI Pigment Blue 15, 15:2, 15:3, and 15:4 all describe the same compound." Applicant respectfully disagrees.

It is Applicant's understanding that although CI Pigment Blue 15, 15:2, 15:3, and 15:4 describe *similar* compounds, the respective compounds are patentably distinct. To assist the Office in appreciating the claimed subject matter, the following excerpt is reproduced from the "Colour Index Generic Names, Constitution Numbers and the Use of Colon Number", a help file on understanding Color Index available at http://www.sdc.org.uk/pdf/cihelpfile01.pdf.

Colour Index Generic Names, Constitution Numbers and the Use of Colon Number

Crystal Modifications

> The classic example of a pigment having different names for the various crystal modifications is phthalocyanine blue, which has been classified as C.I. Pigment Blue 15. C.I Pigment Blue 15:1, which is reddish-blue, is the α-modification while C.I. Pigment Blue 15:3, which is greenish-blue, is the β-modification. These products carry the came (sic) C.I. Constitution number: C.I. 74160.
>
> In contrast, C.I Pigment Blue 15:2 and C.I. Pigment Blue 15:4 are, respectively, α- and β-modifications which have been given an after-treatment to make them flocculation stable. In fact most commercial phthalocyanine pigments are after-treated, so this is another example of lack of consistency in past Colour Index practice as regards the allocation of colon numbers. The division between C.I. Pigment Blue 15:1 and Blue 15:2, and between C.I. Pigment Blue 15:3 and Blue 15:4, is becoming increasingly blurred. Although this anomaly is recognized, it is not the intention that it will become a precedent for any other chemical types introduced in the future.

Based on the above Applicant's understanding of the Colour Index, Applicant respectfully submits that the pigments claimed in claims 5 and 6 are patentably distinct.

CLAIM REJECTIONS 35 U.S.C. § 103: A & B

A. Claim 14 stands rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,538,828 to Suzuki et al. (hereinafter "Suzuki") in view of Sugizaki. Applicant respectfully traverses the rejection.

Amended **dependent claim 14** recites *"a black toner particle according to claim 1 wherein the polymer is a copolymer of ethylene and methacrylic acid."*

Suzuki and/or Sugizaki fail to disclose, teach or suggest an optical density fading of less than 10.5%

First, as explained above with respect to the rejection under §102, Applicant submits that Sugizaki fails to disclose the features of independent claim 1. Dependent claim 14 depends directly from independent claim 1, and is allowable by virtue of this dependency. This dependent claim is also allowable for its own recited features that, in combination with those recited in claim 1, are not disclosed, taught, or suggested by Suzuki and/or Sugizaki.

Second, Applicant agrees with the Office that Suzuki fails to disclose, teach or suggest a mixture of pigments with the carbon black pigment. *See,* Office Action, pg. 4. Further, Applicant submits that Suzuki fails to compensate for the deficiencies of Sugizaki. Rather, Suzuki describes improving the low-temperature fixation characteristics of toner as well as improving the toner's anti-offset, anti-aggregation and anti-smearing properties. *See,* Abstract.

In contrast, Applicant's amended claim 1, from which claim 14 depends, recites a toner particle for use in a printing toner, *"wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours."*

As these recited features are not disclosed, taught or suggested in Suzuki and/or Sugizaki, Applicant respectfully submits that claim 14 is not disclosed, taught or suggested by these references. Therefore, Applicant respectfully requests that the § 103 rejection be withdrawn.

B. Claims 8-10, 16, 17, 20, and 23 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,304,451 to Felder et al. (hereinafter "Felder") in view of Sugizaki. Applicant respectfully traverses the rejection.

First, as explained above with respect to the rejection under §102, Applicant submits that Sugizaki fails to disclose the features of independent claim 1. **Dependent claims 8-10, 16, 17, 20 and 23** depend directly from independent claim 1, and are allowable by virtue of this dependency. The dependent claims are also allowable for their own recited features that, in combination with those recited in claim 1, are not disclosed, taught, or suggested by Felder and/or Sugizaki.

Applicant agrees with the Office that Felder fails to disclose, teach or suggest the combination of carbon black and pigments as required in the instant claims. *See,* Office Action, pg. 4. Rather, Felder is directed towards a method for replenishing a liquid electrostatic developer which is suited to the requirements of a printing machine having extremely efficient carrier fluid containment. *See,* Col. 6, lines 27-30.

Applicant respectfully disagrees with the Office's characterization of Felder. On page 5 of the Office Action mailed March 4, 2008, the Office states that Felder "teaches that a large number of different colorants can be used in the toner, including carbon black, yellow, cyan, and magenta pigments." Applicant respectfully submits that Felder, at most, discloses the use of a single pigment for use in a toner.

This interpretation is supported in Felder at least at Col. 7, lines 9-10, which states, "[t]he resin is mixed with ***a colorant***" (emphasis added). Felder also discloses that a single colorant is used at Col. 7, line 26: "[t]he resin may be blended with any suitable ***colorant***" (emphasis added). Felder reiterates the use of a single colorant at Col. 8, lines 29-30: "[t]he ***pigment*** and the resin may blended in any suitable manner" (emphasis added). The reference to "any suitable manner" refers to the physical method of blending the colorant and the resin, and does not disclose, teach or suggest any ability to blend multiple colorants and resins to make a compound.

In contrast, Applicant's amended claim 1, from which claims 8-10, 16, 17, 20 and 23 depends, recites, *inter alia*, a toner particle for use in a printing toner, *"wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours."*

As these recited features are not disclosed, taught or suggested in Felder and/or Sugizaki, Applicant respectfully submits that claims 8-10, 16, 17, 19-21 and 23 are not disclosed, taught or suggested by these references, and Applicant respectfully requests these § 103 rejections be withdrawn.

Independent Claim 24

Newly added **independent claim 24** recites a black toner particle for use in a printing toner, the particle comprising:

> a polymer;
> carbon black; and
> a plurality of different colored pigments, wherein one of the colored pigments is a blue pigment and one of the colored pigments is a violet pigment;
> wherein the carbon black and the plurality of different colored pigments are dispersed in the polymer, wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours; and
> wherein the carbon black and different colored pigments provide the toner particle with a Chroma value having magnitude less than about 2, after printing on white paper.

With regard to independent claim 24, and as mentioned above with respect to claim 1, the cited references fail to disclose, *inter alia,* a toner particle *"wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours*". Thus, independent claim 24 is allowable over the cited references for at least similar reasons as claim 1. Accordingly, Applicant respectfully submits that claim 24 is not anticipated by the cited references, and Applicant respectfully submits claim 24 is in a condition for allowance.

Independent Claim 25

Newly added **independent claim 25 a** method of printing an image on a substrate comprising:

> generating a charge distribution responsive to the image on a surface, the charge distribution defining image areas and background areas;
>
> adhering toner particles comprised in a toner to image areas on the surface, wherein the toner particles are a black toner particle, the particle comprising:
>
> a polymer;
>
> carbon black; and
>
> a plurality of different colored pigments;
>
> wherein the carbon black and the plurality of different colored pigments are dispersed in the polymer, and wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to a light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours; and

transferring the toner particles from the surface to the substrate.

With regard to independent claim 25, and as mentioned above with respect to claim 1, the cited references fail to disclose, *inter alia*, a toner particle "*wherein an image formed using the printing toner exhibits an optical density fading of less than 10.5% when exposed to light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of time over 200 hours*". Thus, independent claim 25 is allowable over the cited references for at least similar reasons as claim 1. Accordingly, Applicant respectfully submits that claim 24 is not anticipated by the cited references, and Applicant respectfully submits claim 24 is in a condition for allowance.

New dependent claim 26 depends from independent claim 25 and is allowable by virtue of this dependency, as well as for additional features that it recites.

Conclusion

Claims 1-14 and 16-18, 20, and 22-24 are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

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